Office copy

Snow Surveyors Climbing to a Snow Course

FEDERAL-STATE COOPERATIVE SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

MONTANA

MAY 1, 1946

by

Montana Agricultural Experiment Station
and
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture

in cooperation with

U. S. Forest Service
U. S. Geological Survey
U. S. National Park Service
State Engineer of Montana

FEDERAL STATE COOPERATIVE SNOW SURVEYS

AND

WATER SUPPLY OUTLOOK FOR MONTANA

MAY 1, 1946

By
O.W. Monson, Irrigation Engineer

Montana Agricultural Experiment Station
Cooperating With
Irrigation Division, Soil Conservation Service

Cooperators

U.S. Geological Survey
U.S. Weather Bureau
State Engineer of Montana
U.S. Forest Service
U.S. National Park Service

Montana Agricultural Experiment Station
Bozeman, Montana

WATER SUPPLY OUTLOOK FOR MONTANA - MAY 1, 1946

Based on Snow Surveys, Precipitation Data, Reservoir Storage, Stream Flow, and Soil Moisture

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Due to above normal temperature and below normal precipitation during April the water supply outlook based on water in cold storage on the higher watersheds is less favorable than it was a month ago. Except for a few favorable local watersheds, the indications are that the runoff from the Missouri and Yellowstone will be less than last year. The discharge from the Clark's Fork will probably be above the 5 Year Average, but slightly less than for 1945.

SNOW SURVEYS

Missouri Headwaters - The water content at four locations on the Gallatin Watershed was from 20 to 80% above last year and from 15 to 32% above the 5 year average. Considerable melting has taken place even at the higher elevations, so that the water content was less than on April 1.

On the Madison Watershed, the water content was from 14 to 45% less than last year, but at Hebgen it was 50% above the 5 year average.

On the Jefferson Watershed, very few measurements are available, but these indicate a lower water content than last year.

On the Main Stem of the Missouri the snow surveys indicate a water content only 15 to 36% as high as a year ago. There was a net loss at all locations even at an elevation of 8,000 feet.

On the Marias the snow cover is only 32% of last year, altho about 63% above the 5 year average.

Sun River - No snow surveys made in May; precipitation during April below normal.

Musselshell - No snow surveys made in May ; precipitation during April below normal.

Yellowstone - Snow surveys at the Canyon Hotel in Yellowstone Park showed a lower water content than on April 1. Measurements have not been made during May previously, so no comparisons with previous years can be made.

Clark's Fork of the Columbia

Bitterroot - On the Skalkaho Summit and Lookout Pass the water content was about 25% above last year, but at East Fork Ranger Station and Gibbons Pass it was less. Runoff prospects are as good or better than the average over the past 5 years.

Blackfoot - The water content of the snow cover was considerably less than a year ago and the indications are that the runoff will be a little less than last year and also below the average for the past 5 years.

Flathead River - Water content measurements indicate somewhat lower runoff prospects than last year, but generally above the average for the past 5 years.

PRECIPITATION

Precipitation during April was generally below normal over the entire state, the deficiency being greatest in the central and eastern parts of the state. This indicates a rather definite change in trend from above normal to below normal since the first of the year. Superintendent Fred Willson, of the North Montana Branch Station at Havre reports the driest 4 month period, January 1, to April 30, in 21 years. Only .92 inch of precipitation was received as compared with a normal of 2.73 inches for the 4 month period. Ralph M. Williams, Superintendent, of the Judith Basin Branch Station reports a total precipitation of 1.39 inches during the first 4 months of 1946 as compared to a normal of 2.93 inches. Because of these drouth conditions he reports the grass rather slow in starting.

Considering the 7 month period, October 1, to April 30, the area west of the divide shows a greater moisture accumulation as compared to last year. Much of this has undoubtedly been lost to evaporation due to the high average temperatures, and it looks as if the runoff will be less than last year.

RESERVOIR STORAGE

Sixteen reservoirs in the Missouri Basin, having a combined storage capacity of 912,020 acre feet, contained 581,310 acre feet on April 30, as compared with 599,850 acre feet a year ago. In other words they were 64% full on April 30, as compared with 66% full last year. Altho the runoff prospects are less than last year it should easily fill all the reservoirs. Fort Peck reservoir contains 13,270,000 acre feet as compared to 11,440,000 acre feet a year ago.

RESERVOIR STORAGE - Con'd

In the Columbia Basin in Montana, 15 reservoirs with a combined storage capacity of 185,925 acre feet held 96,541 acre feet on May 1, as compared to 81,283 acre feet on the same date last year. They are 51½% full this year as compared to 43½% full on the same date last year. Flathead Lake held 1,156,000 acre feet on April 30, as compared to 636,200 acre feet on the same date last year. The water content, altho less than last year appears to be sufficient to fill all these reservoirs.

RUNOFF

The U.S. Geological Survey District Office at Helena reports "stream flow generally above normal in the state. Stream draining mountain areas were well above normal, apparently from early snow melt. Plains areas drained by such streams as the Milk River and tributaries, Dry Creek, Red Water Creek, and the Lower Powder River showed abnormally low runoff during the month. A continuation of the weather trends experienced during April, may mean an early snow runoff peak of less than average magnitude".

SOIL MOISTURE

The Water Table in the Gallatin Valley about 8 miles south-east of Bozeman, stood at 2'10" lower than on the same date last year. This is the lowest since 1941. Soil moisture in the wheat growing areas is low and a reversal in the present precipitation trend is needed in order to assure a crop. The prospects for this to happen are fairly good.

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U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
STATE OF MONTANA, MONTHLY PRECIPITATION FOR
OCTOBER 1, 1945 - APRIL 30, 1946

1946 1946 1946 1947 1947 1947

STATIONS	~~1945~~ OCTOBER		~~1945~~ NOVEMBER		~~1945~~ DECEMBER		~~1946~~ JANUARY		~~1946~~ FEBRUARY		~~1946~~ MARCH		~~1946~~ APRIL	
	Precip	Dep	Precip	Dep	Precip	Dep	Precip	Dep	Precip	Dep	Precip	Dep	Precip	Dep
WEST OF DIVIDE														
Butte	0.60	-0.19	0.67	+0.27	0.76	+0.32	0.34	-0.06	0.31	-0.11	0.69	+0.05	0.30	-0.76
Deer Lodge	0.34	-0.34	0.31	-0.24	0.67	+0.16	0.05	-0.54	0.19	-0.24	0.68	+0.07	0.25	-0.57
Hamilton	0.33	-0.58	0.64	-0.17	1.18	+0.47	0.55	-0.24	0.44	-0.31	0.65	-0.04	0.33	-0.54
Kalispell	1.77	+0.71	0.91	-0.44	2.12	+0.67	1.07	-0.50	0.73	-0.38	0.55	-0.40	0.51	-0.29
Missoula	0.48	-0.47	0.92	+0.02	1.51	+0.56	0.41	-0.44	0.34	-0.46	0.76	-0.06	0.33	-0.57
CENTRAL DIVISION														
Babb	0.54	-0.64	0.62	-0.37	0.61	-0.33	0.81	-0.13	0.50	-0.32	1.94	+0.83	0.66	-1.00
Dillon	0.30	-0.64	0.23	-0.57	0.39	-0.35	0.05	-0.78	0.38	-0.34	0.69	-0.47	0.32	-1.36
Fort Benton	0.99	+0.27	0.26	-0.33	1.16	+0.65	0.21	-0.45	0.05	-0.44	0.56	-0.06	0.79	-0.33
Great Falls	0.80	-0.06	0.32	-0.36	1.73	-1.08	0.10	-0.51	0.12	-0.43	0.42	-0.44	0.48	-0.67
Havre	1.28	+0.61	0.08	-0.53	0.91	-0.30	0.37	-0.36	0.13	-0.37	0.26	-0.25	0.43	-0.56
Helena, WBO	0.23	-0.38	0.25	-0.20	0.60	-0.13	0.20	-0.36	0.21	-0.16	0.56	-0.23	0.33	-0.79
Livingston	0.54	-0.63	1.77	+0.97	0.94	-0.34	0.29	-0.25	0.32	-0.22	0.78	-0.08	0.18	-1.14
Lewistown Arpt.	1.38	+1.02	0.87	+0.66	0.95	-0.75	0.49	-0.24	0.18	-0.59	0.54	-0.49	0.35	-0.92
Mystic Lake	0.35	-1.49	2.10	+0.52	1.04	0.00	0.98	-0.16	0.52	-0.56	3.77	+1.72	0.69	-2.05
EASTERN DIVISION													*(Garland)	
Billings #2	0.93	-0.52	0.60	-0.16	0.81	+0.17	0.41	-0.40	0.16	-0.34	1.26	+0.29	0.13	-1.30
Circle	0.34	-0.51	1.07	+0.50	0.33	-0.42	0.12	-0.55	0.12	-0.49	0.21	-0.79	0.46	-0.68
Frazer	0.75	-0.13	1.04	+0.51	0.72	+0.33	0.33	-0.08	0.58	+0.24	0.33	-0.37	0.22	-0.74
Malta	0.58	-0.15	0.35	-0.06	0.85	+0.39	0.14	-0.33	0.18	-0.19	0.37	-0.17	0.32	-0.48
Mildred	0.19	-0.54	0.29	-0.08	0.51	+0.19	0.01	-0.33	0.23	-0.03	0.65	+0.23	0.45	-0.62
Medicine Lake	0.77	+0.02	1.33	+1.00	0.79	+0.51	0.13	-0.18	0.65	+0.33	0.11	-0.30	0.25	-0.64
Miles City	0.46	-0.44	0.19	-0.38	0.33	-0.30	0.15	-0.51	0.08	-0.41	0.50	-0.36	*0.30	-0.86
Fort Peck	0.52	-0.23	0.76	+0.29	0.51	+0.23	0.04	-0.34	0.15	-0.12	0.21	-0.29	0.15	-0.93

STATIONS	1945 OCTOBER		1945 NOVEMBER		1945 DECEMBER		1946 JANUARY		1946 FEBRUARY		1946 MARCH		1946 APRIL	
EAST OF DIVIDE														
Butte	0.06	-0.19	0.07	-0.27	0.75	-0.12	0.34	-0.06	0.71	-0.11	0.89	-0.03	0.30	-0.74
Deer Lodge	0.34	-0.34	0.33	-0.21	0.07	-0.16	0.04	-0.54	0.16	-0.24	0.88	-0.07	0.29	-0.57
Hamilton	0.33	-0.38	0.64	-0.17	1.18	-0.17	0.55	-0.24	0.44	-0.31	0.65	-0.04	0.39	-0.34
Helena	1.27	-0.71	0.91	-0.44	2.12	-0.67	1.07	-0.36	0.73	-0.24	0.55	-0.10	0.51	-0.49
Missoula	0.48	-0.47	0.92	+0.02	1.32	+0.36	0.41	-0.44	0.34	-0.16	0.76	-0.06	0.33	-0.37
WEST OF DIVIDE														
Bonners Ferry	0.54	-0.84	0.52	-0.39	0.61	-0.33	0.61	-0.13	0.39	-0.35	1.91	+0.31	0.66	-1.00
Dillon	0.30	-0.84	0.21	-0.57	0.39	-0.35	0.09	-0.78	0.38	-0.34	0.69	-0.47	0.32	-1.35
Fort Benton	0.99	+0.27	0.26	-0.33	1.16	+0.69	0.21	-0.45	0.09	-0.44	0.76	-0.06	0.79	-0.37
Great Falls	0.80	-0.04	0.34	+0.36	1.73	-1.08	0.10	-0.31	0.15	+0.43	0.13	-0.44	0.46	+0.67
Havre	1.28	+0.81	0.08	-0.53	0.91	-0.30	0.37	-0.36	0.13	-0.37	0.36	-0.29	0.43	+0.56
Helena, WSO	0.23	-0.38	0.25	+0.20	0.00	+0.13	0.20	+0.30	0.21	-0.16	0.55	-0.23	0.35	-0.79
Livingston	0.51	-0.63	1.77	+0.97	0.74	-0.78	0.39	+0.29	0.30	-0.22	0.78	-0.08	0.18	-1.11
Manhattan Agri.	1.38	+1.02	0.87	+0.65	0.96	-0.75	0.19	-0.24	0.16	-0.29	0.54	-0.14	0.37	-0.92
Marysville Lupa	0.39	-1.49	2.10	+0.34	1.04	0.00	0.98	+0.16	0.52	+0.36	3.77	+1.72	0.49	+2.05
SOUTH DIVISION														
Billings #2	0.93	-0.42	0.00	-0.16	0.81	+0.17	0.41	+0.40	0.15	+0.34	1.44	+0.29	0.13	+1.30
Dillon	0.34	-0.41	1.07	+0.50	0.33	-0.12	0.14	+0.55	0.12	+0.19	0.21	+0.76	0.16	+0.84
Frazer	0.75	-0.13	1.01	+0.51	0.72	+0.23	0.33	-0.08	0.39	+0.24	0.39	+0.37	0.29	+0.74
Helia	0.58	-0.15	0.35	-0.06	0.81	+0.39	0.14	+0.31	0.18	+0.19	0.37	+0.17	0.32	+0.46
Kalispell	0.19	-0.34	0.29	+0.08	0.21	+0.19	0.07	+0.27	0.23	+0.03	0.65	+0.23	0.43	+0.82
Medicine Lake	0.77	+0.08	1.33	+0.00	0.79	+0.32	0.32	+0.18	0.65	+0.33	0.21	+0.30	0.25	+0.84
Miles City	0.46	-0.44	0.19	-0.38	0.33	-0.30	0.15	-0.31	0.08	+0.41	0.20	+0.26	+0.30	-0.86
Post Peak	0.32	-0.21	0.76	+0.29	0.32	+0.23	0.34	-0.34	0.15	-0.10	0.21	+0.29	0.15	+0.93

STORAGE IN RESERVOIRS OF MONTANA

MISSOURI RIVER BASIN — APRIL 30, 1946

RESERVOIR	Located on or diverting from	Usable Capacity Acre-Feet	Contents this month Acre-Feet	Contents a year ago Acre-Feet
Lake Sewall	Missouri	37,800	36,600	19,000
Hauser Lake	Missouri	52,090	42,870	49,790
Holter Res.	Missouri	73,600	61,730	48,910
Ft. Peck Res.	Missouri	19,000,000	13,270,000	11,440,000
Ruby Res.	Ruby	38,850	37,550	28,030
Hebgen Res.	Madison R.	345,000	191,700	224,500
Madison Res.	Madison R.	41,000	37,400	33,500
Gibson Res./N.Fk. Sun R.		105,000	76,680	71,600
Willow Cr./N.Fk.Sun & Willow Cr.		32,300	11,620	22,600
Pishkun Res./N.Fk. Sun R.		32,000	22,390	16,970
Lower Two Medicine L./Two Med.R.		14,000	9,200	0
Four Horns Res./Badger Cr.		20,000	5,800	5,300
Ackley Lake	Judith R.	5,820	3,200	5,480
Nelson Res.	Milk R.	66,800	26,640	37,020
Mystic L./ W. Rosebud Cr.		20,800	9,610	3,710
Cooney Res.	Red Lodge Cr.	27,500	8,320	13,440

COLUMBIA RIVER BASIN

Georgetown Lake/Flint Cr.	31,000	23,160	18,570
Nevada Cr. Res./Nevada Cr.	12,600	11,150	11,100
Flathead L.(Somers)Flathead R.	1,791,000	1,156,000	636,200
Lt.Bitterroot L./Lt.Bitterroot R.	18,000	2,850	1,560
Hubbart Res./Little Bitterroot R.	12,100	2,560	2,710
Upper Dry Fk.Res./Dry Fork Cr.	2,700	844	343
Dry Fork Res. Dry Fork Cr.	4,000	2,570	1,940
Twin Res. Canals(Mission Valley)	600	380	80
Pablo Res.Canals(Mission Valley)	25,000	13,930	14,050
Lower Crow Res.Crow Cr./Mission V.)	10,350	10,220	9,350
Kicking Horse Res.Canals/ " ")	8,350	2,500	1,230
Ninepipe Res.Canals(Mission Valley)	14,870	12,250	11,660
McDonald Res.Post Cr./ " ")	8,225	657	3,300
Mission Res.Miss.Cr./ " ")	7,250	1,550	1,890
Tabor Res.Dry Cr. (Mission Valley)	23,300	10,670	3,500
L.Jocko L.Jocko R.(Mission Valley)	7,600	1,250	0

DATA FURNISHED BY OPERATING ORGANIZATIONS

COMPILED BY WATER RESOURCES BRANCH, U.S. GEOLOGICAL SURVEY,

HELENA, MONTANA

Reservoir	Located on or discharges into	Capacity (acre-feet)	Contents this month (acre-feet)	Contents year ago (acre-feet)
Lake Sewell	Missouri	37,000	36,400	19,000
Nasser Lake	Missouri	52,090	42,870	49,790
Holter Res.	Missouri	73,600	61,730	68,910
Ft. Peck Res.	Missouri	19,000,000	13,270,000	11,440,000
Ruby Res.	Ruby	36,340	37,490	35,030
Hebgen Res.	Madison R.	385,000	147,700	224,500
Madison Res.	Madison R.	61,000	37,400	53,300
Gibson Res.	N.Fk. Sun R.	105,000	80,000	71,600
Miller Cr.	N.Fk.Sun & Willow Cr.	32,300	11,850	22,000
Pishkun Res.	N.Fk. Sun R.	32,000	22,300	16,970
Lower Two Medicine L.	Two Med.R.	14,000	9,200	0
Four Horns Res.	Badger Cr.	20,000	3,800	5,300
McIlroy Lake	Judith R.	5,820	3,200	5,160
Nelson Res.	Milk R.	56,800	26,840	37,020
Kyale L.	Woodhead Cr.	20,800	9,610	3,710
Cooney Res.	Red Lodge Cr.	27,300	8,350	13,440

COLUMBIA RIVER BASIN

Deerhorn Lake	Flint Cr.	31,000	23,160	18,270
Nevada Cr. Res.	Nevada Cr.	12,600	11,120	11,120
Flathead L.	(Somers) Flathead R.	1,791,000	1,156,000	636,300
L. Pittengrew	Whitefish R.	10,000	2,850	1,540
Rubbert Res.	Little Whitefish R.	12,100	2,360	2,720
Upper Dry Fk. Res.	Dry Fork Cr.	2,700	894	843
Dry Fork Res.	Dry Fork Cr.	4,000	2,270	1,940
Twin Res.	Canal (Missoula Valley)	600	360	80
Pablo Res.	Canal (Missoula Valley)	23,000	13,730	14,040
Lower Crow Res.	Crow Cr. (Missoula V.)	10,350	10,220	9,470
Kicking Horse Res.	Canal " ")	4,350	2,300	1,230
Hiplpipe Res.	Canal (Missoula Valley)	14,870	12,350	11,900
McDonald Res.	Post Cr. " ")	8,225	6,970	3,320
Blessing Res.	Mike Cr. " ")	7,250	1,320	1,440
Tabor Res.	Dry Cr. (Missoula Valley)	23,300	10,070	3,320
L. Loon	L. Flathead (Missoula Valley)	1,000	1,000	320

DATA PUBLISHED BY COOPERATING ORGANIZATIONS

COMPILED BY KUTNA RESOURCES MANAGER, U.S. GEOLOGICAL SURVEY,

HELENA, MONTANA

MONTANA COOPERATIVE SNOW SURVEYS

April 1, 1946

Drainage Basin / Name of Snow Course	Local Water-Shed	Elev. of Snow Course	1946 Measurements Date	Snow Depth	Water Content	Water Content on Corresponding Dates 5 Year Period 1941	1942	1943	1944	1945/	5 Yr. Av.	1945/5 Yr. % / Av.
GALLATIN												
Hood Meadow Ext./	Middle Cr.	6600	4-30	10.4	1.3	2.2	3.1	1.7	4.9	6.0	3.6	22 / 36
Devil's Slide	" "	8100	4-30	57.4	22.3	14.8	20.4	24.4	18.1	18.3	19.2	120 / 115
21 Mile	Gal-Madison	7150	4-29	22.4	10.3	4.6	6.4	17.6	8.1	7.3	8.8	141 / 116
320 Ranch	Gallatin	6600	5-1		9.4	7.6	6.2	10.2	6.7	5.0	7.1	188 / 132
MADISON												
West Yellowstone/	Madison	6700	4-29	4.3	1.8	0.6	0.6	7.4	1.2	2.1	2.4	86 / 75
Hebgen	"	6500	4-29	3.4	1.2	0.0	0.2	0.9	0.5	2.2	0.8	55 / 150
21 Mile	Gal-Madison	7150	4-29	22.4	10.3	4.6	6.4	17.6	8.1	7.3	8.8	141 / 116
JEFFERSON												
Gibbons Pass	Gibbon	7100	5-1	42	17.4	11.4		28.0	14.4	17.6		99 /
Elkhorn	Beaverhead	9450										
Pipestone Pass		7200	5-1	0	0	2.0	2.0	1.4	1.6	5.2	2.4	/

MONTANA COOPERATIVE SNOW SURVEYS

May 1, 1946

Drainage Basin / Name of Snow Course	Local Water-Shed	Elev. of Snow Course	1946 Measurements Date	Snow Depth	Water Content	Water Content on Corresponding Dates 5 Year Period 1941	1942	1943	1944	1945	5 Yr. Av.	1945/ % /	5 Yr. Av.
MISSOURI MAIN STEM													
Rimini	Lower Ten Mile Cr.	6250	5-1	0.0	0.0	0.9	0.8	1.9	0.8	5.9	2.1		
Rimini	Middle Cr.	6800	5-1	7.0	1.4	4.9	5.5	7.9	5.2	9.6	6.6	15	21
Rimini	Upper Cr.	8000	5-1	17.5	4.6	7.8	9.4	11.0	7.5	12.8	9.7	36	48
Chesman	Upper Cr.	6200	5-2	0.0	0	0.4	0.3	1.4	0.6	3.6	1.3		
Stemple Pass/	Lt. Prickly Pear	6900	5-2	5.5	2.0	1.6		9.8	4.8	10.0		20	
Marias Pass	medicine	5250	5-1	18.8	8.8	0.0	0.5	10.6	1.6	14.3	5.4	62	163

MONTANA COOPERATIVE SNOW SURVEYS

April 1, 1949

Drainage Basin

Name of Snow Course

Elev. of Snow Course

Date of Survey

Depth of Snow

Water Content

Density

Last Year's Depth

Last Year's Water Content

Last Year's Density

Average Depth

Average Water Content

Average Density

Percent of Average Water Content

Upper Yellowstone Basin

Upper Yellowstone Basin

Lower Yellowstone Basin

Upper Yellowstone Basin

Upper Yellowstone Basin

Upper

MONTANA COOPERATIVE SNOW SURVEYS
COLUMBIA BASIN

May 1, 1946

Drainage Basin / Name of Snow Course	Local Water-shed	Elev. of Snow Course	1946 Measurements Date	Snow Depth	Water Content	Water Content on Corresponding Dates 5 Year Period 1941	1942	1943	1944	1945	5 Yr. Av.	1946 Compared to 1945%	1946 Compared to 5 Yr. Av. %
BITTERROOT													
Mud Cr. Pasture	Clearwater	4500	5-1	0.0	0.0	0.0	0.0		0.0	0.0			
Nez Perce Pass	Selway	6575	5-1	12	4.4	0.0	0.0	8.4	0.0	13.1	4.3	33	102
E.Fork Ranger Station		5400	4-30	0.0	0.0	0.0		0.0	0.0	0.0			
Skalkaho Smt.	Flint Creek	7258	5-1	44	25.7	8.6	15.2	31.9	15.5	20.6	18.4	125	140
Lookout		5200	5-1	71.2	32.8	0.0	4.8	24.4	8.1	26.1	12.7	126	258
Gibbons Pass		7100	5-1	42.0	17.4	11.4		28.0	14.4	17.6		99	
BLACKFOOT													
Summit Springs	Camp/Blackfoot	4203	5-1	0.0	0.0	0.0	0.0		0.0	0.0			
Pipestone Pass	Jefferson	7200	5-1	0.0	0.0	2.0	2.0	1.4	1.6	5.2	2.4		
Slide Rock Mt.	Rock Creek	7100	4-29	24.0	9.2	4.6	7.8	16.7	9.1	15.2	10.7	61	86
Stemple Pass/Lt.	Prickley Pear	6900	5-2	5.5	2.0	1.6		9.5	4.8	10.0		20	
StormLake#2	Rock Creek	7780				9.4	14.1	18.1	13.5	13.2	13.6		
Skalkaho		7258	5-1	44	25.7	8.6	15.2	31.9	15.5	20.6	18.4	125	140
FLATHEAD RIVER													
Hell Roaring		5770	5-1	71.0	30.5		13.6	23.1	16.1	33.7		91	
Desert Mt.		5600	5-1	22.0	10.5	0.0	1.4	7.7	3.4	14.9	5.5	71	191
Freezout Summit		7000	5-3	61.0	28.2	11.9	18.1	35.3	17.0	29.8	22.4	95	126
Stuart Mountain		7400	4-29	65.0	30.2	10.5	18.3	31.9	16.8	31.7	21.9	98	142
Marias Pass		5250	5-1	18.8	8.8	0.0	0.5	10.6	1.6	14.3	5.4	62	163
KOOTANAI													
Baree Mt.		6000	4-29	105	49.1	13.8	23.4	48.7	21.9				